

Deviations from normal temperature—Continued.

State and station.	County.	(1) Normal for the month of Sept.	(2) Length of record.	(3) Mean for Sept., 1891.	(4) Departure from normal.	(5) Extreme monthly mean for September.			
						Highest.	Year.	Lowest.	Year.

Pennsylvania.		°	Years	°	°	°		°	
Dyberry	Wayne	58.0	24	60.6	+ 2.6	66.9	1881	52.5	1871
Grampian Hills	Clearfield	60.4	27	64.4	+ 4.0	72.0	1881	54.2	1871
Wellsborough	Tioga	58.9	12	59.0	+ 0.1	73.8	1881	52.3	1883
South Carolina.									
Statesburgh	Sumter	72.5	10	72.0	— 0.5	77.9	1881	69.9	1888
Tennessee.									
Austin	Wilson	71.9	20	71.5	— 0.4	78.2	1881	67.6	1875
Texas.									
New Ulm	Austin	77.3	19	77.6	+ 0.3	81.0	1872	74.6	1889
Vermont.									
Stratford	Orange	59.7	18	63.1	+ 3.4	64.4	1879	56.2	1876
Virginia.									
Birdsnest	Northampt'n	70.9	22	71.9	+ 1.0	79.1	1881	61.2	1877
Washington.									
Fort Townsend	Jefferson	57.3	16	55.3	— 2.0	63.5	1874	53.9	1884
Wisconsin.									
Madison	Dane	60.8	14	67.0	+ 6.2	67.0	1891	57.5	1890

MAXIMUM TEMPERATURE.

The maximum temperature was 1 above the highest temperature previously reported for September at Red Bluff and Keeler, Cal., on the 1st, and at La Crosse, Wis., on the 18th, and equaled the highest temperature on record at Duluth, Minn., on the 17th, at Huron, S. Dak., on the 18th, at Grand Haven, Mich., on the 19th, and at Dubuque, Iowa, on the 21st.

The maximum values were above 110 in the lower Colorado and middle and lower Gila valleys, and a reading of 120 was reported at Maricopa, Ariz.; in the central valleys of California, at stations in the west parts of the middle and southern plateau regions, in south-central Oregon, central lower Michigan, south Texas, south New Mexico, and at points in the central valleys east of the 87th meridian temperature above 100 was reported. The lowest maximum temperature was noted in extreme northwest Washington and along the north California coast, where it was 70 or below, and the maximum readings were below 80 in east New England, on the extreme southeast New England coast, and along the immediate Pacific coast north of the 40th parallel.

MINIMUM TEMPERATURE.

At Keeler, Cal., the minimum temperature on the 30th, 43, was 7 lower than previously reported at that station in September.

Minimum temperature below 20 was reported in an area extending over east-central Nevada, and in the northeast part of southern Idaho, and minimum readings below 30 were noted in north New England, north-central lower Michigan, north-central Wisconsin, northwestern Minnesota, the east parts of the Dakotas, and generally over the middle and northern plateau regions, except in parts of Utah and western Colorado, and in the valley of the Columbia River. The highest minimum temperature reported, 70, was noted at Key West, Fla., and the minimum readings were above 60 on the extreme eastern North Carolina coast, along the Atlantic coast south of North Carolina, and along the immediate Gulf coast.

LIMITS OF FREEZING WEATHER.

The southern and western limits of freezing weather are shown on Chart V. The southern limit is indicated by a line traced over north New England, by lines inclosing areas in north-central lower Michigan and north-central Wisconsin within which the temperature fell below 32, and by a line traced southward over western Minnesota to northern Iowa, thence

westward to central Nebraska, thence northward east of the Missouri River to extreme northeast Montana, thence southward to north-central New Mexico, thence to central Arizona, and thence north of west over southern Nevada to east-central California, and the western limit is shown by this line continued northward over eastern California and central Oregon and Washington to British Columbia. In areas in the plateau region north of this line the minimum temperature was above 32, notably from northern Utah to west-central Colorado, and in the valley of the Columbia River in eastern Oregon and eastern Washington, where the minimum readings were 4 to 12 above the freezing point.

RANGES OF TEMPERATURE.

The greatest daily range of temperature is given in the table of miscellaneous data. The greatest monthly ranges were noted in the middle Missouri valley and from north-central Nevada over eastern Oregon, where they exceeded 60. From the Missouri Valley the monthly ranges decreased eastward to the extreme southeastern New England coast, where they were less than 30, southeastward to 17 at Hatteras, N. C., to 20 at Titusville and Key West, Fla., and on the middle Gulf coast, and from the middle part of the plateau region they decreased to the extreme northwest Washington and northern California coasts, where they were less than 30, and to the extreme southern California coast, where they were less than 40.

FROST.

The first light frost of the season was reported at Duluth, Minn., and Lander, Wyo., on the 3d; at Springfield, Ill., on the 4th; in southeast lower Michigan on the 8th; at points in New York and New England from the 8th to 11th; at stations in Utah on the 12th, 16th, and 24th; at Winnemucca, Nev., on the 17th; at Montrose, Colo., on the 19th; at points in northwestern Oregon on the 22d, 23d, and 27th; in eastern Oregon on the 23d; in western Missouri, eastern Kansas, and southwestern Iowa on the 29th; in the mountains of north-eastern California on the 29th and 30th; and at Chicago, Ill., and Eureka, Cal., on the 30th.

The first heavy frost of the season was reported at Cheyenne, Wyo., on the 3d; at Baker City, Oregon, on the 24th; at Fort Assiniboine, Mont., and Fort McKinney, Wyo., on the 28th; in eastern Kansas and southeastern Nebraska on the 29th; and at Susanville, Cal., Helena, Mont., and Farmington, Me., on the 30th.

In the interior of the Atlantic coast states frost occurred as far south as south-central Pennsylvania on the 9th to 11th and 30th; in northern West Virginia on the 9th and 10th; on low ground in Carroll county, Md., on the 10th; in the Ohio Valley north of the Ohio River on the 9th and 30th; in Kansas and western Missouri on the 3d, 4th, 28th, and 29th; from the plateau region to south-central Arizona on the 25th and 26th; generally throughout the northern half of Nevada at intervals during the second and third decades of the month; in northern California on the 29th and 30th; and in western Oregon and western Washington at intervals during the third decade of the month.

In 1890 the first heavy frost of the season was reported in September at points in the northern tier of states from the Atlantic to the Pacific oceans; along the Atlantic coast to New Jersey; in the central valleys to Ohio, Missouri, and Kansas; in the plateau region to Colorado and Utah; and in Washington and Oregon. Records of previous years show that the first heavy frost of the season is not uncommon in September in New England, New York, northern Ohio, the upper lake region, and in the states of the middle and upper Missouri valleys.

PRECIPITATION (expressed in inches and hundredths).

The distribution of precipitation over the United States and Canada, for September, 1891, as determined from the reports of nearly 2,000 stations, is exhibited on Chart III. In the table

of miscellaneous meteorological data the total precipitation and the departure from the normal are given for regular stations of the Weather Bureau. The figures opposite the names of the

geographical districts in the columns for precipitation and departure from the normal show, respectively, the averages for the several districts. The normal for any district may be found by adding the departure to the current mean when the precipitation is below the normal and subtracting when above.

The monthly precipitation was greatest over the east and south parts of the Florida Peninsula and on the extreme north Pacific coast, where it was more than 10.00. Precipitation to exceed 10.00 was also reported at Luling, La., and Brazoria, Tex. At stations in the Colorado Desert, California, no rainfall was reported, and less than 1.00 was noted over the greater part of California, generally in the plateau region and on the northeast slope of the Rocky Mountains, and in areas in the west part of the Lake region, the central valleys, Texas, and central Georgia.

DEPARTURES FROM NORMAL PRECIPITATION.

Less than the usual amount of rain fell east of the Rocky Mountains, except in Kansas, the Red River of the North valley, the Canadian Maritime Provinces, the Florida Peninsula, and in small areas in east Maryland and the middle Ohio valley, where there was an excess. The precipitation was also deficient over the south part of the southern plateau and in the Sacramento Valley. The greatest deficiency was noted at Pensacola, Fla., where it was more than 4.00, and it exceeded 2.00 from the upper lake region to the middle Mississippi valley and thence to west Florida, and in the middle Saint Lawrence valley. The greatest excess was reported in extreme northwest Washington, where it was more than 6.00, and it was more than 2.00 at Charlottetown, P. E. I., in west Nova Scotia, and over the Florida Peninsula.

Considered by districts the average percentage of the normal in districts where the precipitation was in excess was about as follows: southern and middle plateau regions, 190; middle-eastern slope, 186; north Pacific coast, 152; Key West, Fla., 141; and extreme northwest, 106. In districts where the precipitation was deficient the percentage of the normal was about as follows: Missouri Valley, 29; upper Mississippi valley, 30; upper lake region, 42; southeast slope, 45; east Gulf states, 47; Ohio Valley and Tennessee and lower lake region, 50; middle Atlantic states and northern plateau, 62; New England, 69; west Gulf states, 71; south Atlantic states, 77; and lower Rio Grande valley, 90.

PRECIPITATION, JANUARY TO SEPTEMBER.

For the period January to September, 1891, inclusive, the precipitation averaged about normal at Key West, Fla., in the Ohio Valley and Tennessee, and on the north Pacific coast. On the northeast slope of the Rocky Mountains the precipitation averaged about one-third greater, and in the middle Atlantic states, the extreme northwest, on the middle-eastern slope of the Rocky Mountains, and over the middle plateau region it was one-tenth to two-tenths greater than usual. In all other districts the precipitation was eight to nine-tenths of the usual amount for the period named.

YEARS OF GREATEST PRECIPITATION FOR SEPTEMBER.

The greatest precipitation ever reported for September was noted at Dodge City, Kans., Santa Fé, N. Mex., Cheyenne, Wyo., Montrose, Colo., and Tatoosh Island, Wash., in 1891; in South Carolina and east Georgia in 1890; from the middle Mississippi valley to south Michigan in 1886; in the valley of the lower Columbia river in 1884; from the middle Missouri valley to Lake Superior in 1881; and from west Pennsylvania to the Virginia and North Carolina coasts in 1876.

YEARS OF LEAST PRECIPITATION FOR SEPTEMBER.

The least precipitation ever reported for September was noted at Vicksburg, Miss.; Austin and Memphis, Tenn.; Lead Hill, Ark.; North Lewisburg, Ohio; Keokuk, Iowa; Chicago, Ill.; Milwaukee and Madison, Wis.; Leavenworth, Kans.; and Valentine, Nebr., in 1891; on the north Pacific coast in 1890; over the northern plateau region and from east Texas to the middle Missouri valley in 1888; in the Red River of the North

Valley and on the North Carolina coast in 1887; along the New England and middle Atlantic coasts in 1884; on the east Gulf coast in 1883; from the middle Missouri valley to west Lake Superior in 1882; and in the lower lake region in 1871 and 1877. In the last 20 years there have been 8 years without rainfall in September at San Diego, Cal.; 5 years at Red Bluff, Sacramento, and Los Angeles, Cal.; 4 years at Winnemucca, Nev., and San Francisco, Cal.; 3 years at Yuma, Ariz.; and 2 years at Cheyenne, Wyo.

In 1891, when the monthly precipitation was the greatest on record for September on the extreme north Pacific coast and at stations in the east-central plateau, it was the least noted for the month at points in the central valleys. It was greatest on the south Atlantic coast and least on the north Pacific coast in 1890, and greatest in the lower valley of the Columbia River and least along the New England and middle Atlantic coasts in 1884.

DEVIATIONS FROM AVERAGE PRECIPITATION.

The following table shows for certain stations, as reported by voluntary observers, (1) the average precipitation for September for a series of years; (2) the length of record during which the observations have been taken and from which the average has been computed; (3) the total precipitation for September, 1891; (4) the departure of the current month from the average; (5) and the extremes for September during the period of observation and the years of occurrence:

State and station.	County.	(1) Average for the month of Sept.	(2) Length of record.	(3) Total for Sept., 1891.	(4) Departure from average.	(5) Extremes for Sept.			
						Greatest.		Least.	
						Am't.	Year.	Am't.	Year.
Arkansas.		Inches	Years	Inches	Inches.	Inches.		Inches	
Lead Hill.....	Boone.....	4.93	10	0.33	-4.60	12.08	1890	0.33	1891
California.									
Sacramento.....	Sacramento..	0.15	42	0.07	-0.08	1.42	1890	0.00	*
Connecticut.									
Middletown.....	Middlesex...	3.46	33	3.46	0.00	11.64	1882	0.49	1881
Florida.									
Merritts Island..	Brevard.....	7.91	13	10.70	+2.79	23.78	1878	2.88	1883
Georgia.									
Forsyth.....	Monroe.....	3.60	17	1.35	-2.25	8.69	1888	0.10	1886
Illinois.									
Peoria.....	Peoria.....	3.47	35	2.00	-1.47	9.63	1875	0.60	1867
Riley.....	McHenry.....	3.61	40	0.87	-2.74	8.89	1872	0.21	1877
Indiana.									
Logansport.....	Cass.....	3.45	15	1.61	-1.84	6.66	1859	0.24	1882
Vevay.....	Switzerland..	3.43	26	1.64	-1.79	15.25	1866	0.47	1871
Iowa.									
Cresco.....	Howard.....	4.11	18	0.99	-3.12	10.03	1881	0.82	1888
Monticello.....	Jones.....	4.04	36	0.64	-3.40	10.15	1881	0.00	1871
Logan.....	Harrison.....	3.44	25	1.74	-1.70	9.90	1870	0.20	1882
Kansas.									
Lawrence.....	Douglas.....	3.41	26	.....	.....	9.15	1884	0.23	1888
Wellington.....	Sumner.....	3.72	12	.....	.....	11.19	1881	1.10	1884
Louisiana.									
Grand Coteau....	St. Landry....	3.53	8	.....	.....	10.58	1885	0.37	1888
Maine.									
Orono.....	Penobscot....	3.41	21	3.68	+0.27	6.97	1888	0.95	1887
Maryland.									
Cumberland.....	Allegany.....	2.96	20	2.46	-0.50	8.50	1882	0.40	1873
Massachusetts.									
Amherst.....	Hampshire....	3.44	56	2.25	-1.19	11.85	1882	0.37	1865
Newburyport.....	Essex.....	3.20	12	1.66	-1.54	8.47	1883	0.87	1884
Somerset.....	Bristol.....	3.06	19	2.66	-0.40	7.27	1888	0.94	1884
Michigan.									
Kalamazoo.....	Kalamazoo....	3.39	15	1.40	-1.99	6.28	1879	0.53	1882
Thornville.....	Lapeer.....	2.81	14	3.96	+1.15	5.25	1879	0.95	1882
Minnesota.									
Minneapolis.....	Hennepin.....	3.57	25	1.92	-1.65	11.45	1869	0.15	1882
Montana.									
Fort Custer.....	Custer.....	0.77	12	1.30	+0.53	1.72	1890	0.03	1879
New Hampshire.									
Hanover.....	Grafton.....	3.01	50	1.54	-1.47	7.03	1840	0.27	1884
New Jersey.									
Moorestown.....	Burlington....	3.85	28	3.33	-0.52	11.71	1882	0.16	1884
South Orange.....	Essex.....	4.13	21	2.76	-1.37	14.45	1882	0.15	1884
New York.									
Cooperstown.....	Otsego.....	3.36	37	1.41	-1.95	7.24	1890	1.17	1871
Palestine.....	Oswego.....	3.31	37	1.66	-1.65	7.55	1890	1.04	1880
North Carolina.									
Lenoir.....	Caldwell.....	4.19	19	3.10	-1.09	8.50	1878	0.40	1871
Ohio.									
N. Lewisburgh...	Champaign....	3.44	19	0.70	-2.74	8.20	1890	0.70	1891
Wauseon.....	Fulton.....	2.34	19	0.86	-1.48	5.29	1879	0.55	1871
Oregon.									
Albany.....	Linn.....	1.74	13	2.19	+0.45	5.61	1884	0.05	1890
Eola.....	Polk.....	1.55	21	2.51	+0.96	6.57	1884	0.00	*
Pennsylvania.									
Dyberry.....	Wayne.....	2.86	22	2.37	-0.49	6.49	1888	1.04	1885
Grampian Hills...	Clearfield....	3.38	20	2.38	-1.00	6.36	1868	1.14	1885
Wellsbrough....	Tioga.....	3.55	12	2.30	-1.25	8.40	1880	1.75	1888

Deviations from average precipitation—Continued.

State and station.	County.	(1) Average for the month of Sept.	(2) Length of record.	(3) Total for Sept., 1891.	(4) Departure from average.	(5) Extremes for Sept.			
						Greatest.		Least.	
						Am't.	Year.	Am't.	Year.
South Carolina. Statesburgh.....	Sumter.....	Inches 3.60	Years 10	Inches 3.06	Inches -0.54	Inches 6.67	1884	Inches 0.75	1887
Tennessee. Austin.....	Wilson.....	3.90	21	1.12	-2.78	10.20	1868	1.12	1891
Texas. New Ulm.....	Austin.....	5.45	19	2.54	-2.91	15.08	1874	0.90	1872
Vermont. Stratford.....	Orange.....	3.58	18	1.60	-2.08	6.30	1880	0.70	1884
Virginia. Birdsneat.....	Northampton	3.64	22	2.05	-1.59	9.25	1890	0.00	1884
Washington. Fort Townsend.....	Jefferson....	1.24	16	1.78	+0.54	5.79	1874	0.15	1890
Wisconsin. Madison.....	Dane.....	3.31	21	0.38	-2.93	8.17	1881	0.38	1891

*Generally.

EXCESSIVE PRECIPITATION.

The following tables show, by states, the number of stations reporting monthly precipitation to equal or exceed 10.00; precipitation to equal or exceed 2.50 in 24 hours; and precipitation to equal or exceed 1.00 in 1 hour in September, 1891:

Monthly precipitation to equal or exceed 10.00.

State.	Number of stations.	State.	Number of stations.
Florida.....	9	Louisiana.....	1
Washington.....	2	Texas.....	1

Precipitation to equal or exceed 2.50 in 24 hours.

State.	Number of stations.	Dates.	State.	Number of stations.	Dates.
Florida.....	9	1-2, 5, 6, 9, 10, 10-11, 12, 19, 30.	Connecticut.....	2	6, 6-7.
Texas.....	7	22, 23, 24, 24-25, 25-26, 29-30, 30.	District of Columbia	2	6.
Louisiana.....	6	11, 20, 20-21, 27-28.	Kansas.....	2	7-8, 24, 26.
Mississippi.....	3	10, 20.	Maryland.....	2	5-6, 6.
New Jersey.....	3	5, 5-6.	Ohio.....	2	5.
Washington.....	2	17, 18.	Oklahoma Territory..	2	8-9, 26-27.
Alabama.....	2	12-13, 28.	Indiana.....	1	28.
			Massachusetts.....	1	3.
			South Carolina.....	1	7.
			Virginia.....	1	4.
					5.

Precipitation to equal or exceed 1.00 in 1 hour.

State.	Number of stations.	Dates.	State.	Number of stations.	Dates.
Florida.....	10	2, 6, 11, 20, 22, 27, 29, 30.	Minnesota.....	1	19.
Louisiana.....	5	3, 14, 16, 20-21, 29.	New Hampshire.....	1	18?
South Carolina.....	2	6.	New York.....	1	16.
Alabama.....	1	28.	Oklahoma Territory..	1	8.
Connecticut.....	1	6.	Tennessee.....	1	3.
			Texas.....	1	30.
			Virginia.....	1	5.

The following tables show the number of years for which monthly precipitation to equal or exceed 10.00 inches, daily precipitation to equal or exceed 2.50 inches, and hourly precipitation to equal or exceed 1.00 inch has been reported in the several states and territories for September during the last 22 years:

Excessive monthly precipitation.

State.	No. years noted.	State.	No. years noted.
Florida.....	19	Missouri.....	3
Texas.....	15	Wisconsin.....	3
North Carolina.....	10	Ohio.....	2
Georgia.....	8	Delaware.....	2
Iowa.....	6	Michigan.....	2
New Hampshire.....	6	New York.....	2
Alabama.....	6	Washington.....	2
Kansas.....	5	Arkansas.....	1
Louisiana.....	5	Connecticut.....	1
Mississippi.....	5	District of Columbia	1
Virginia.....	5	Illinois.....	1
Indiana.....	4	Indian Territory.....	1
Massachusetts.....	4	Kentucky.....	1
Nebraska.....	4	Maryland.....	1
New Jersey.....	4	Minnesota.....	1
Pennsylvania.....	4	Oregon.....	1
South Carolina.....	4	Vermont.....	1

Excessive daily precipitation (24 hours).

State.	No. years noted.	State.	No. years noted.
North Carolina.....	19	Kentucky.....	7
Texas.....	18	Minnesota.....	7
Florida.....	17	Nebraska.....	7
Georgia.....	15	New York.....	7
Mississippi.....	15	Indiana.....	7
South Carolina.....	15	Maryland.....	7
Kansas.....	13	Indian Territory.....	6
Virginia.....	13	Massachusetts.....	6
Illinois.....	12	New Hampshire.....	4
Iowa.....	12	District of Columbia	4
Tennessee.....	12	Oregon.....	4
Alabama.....	12	Vermont.....	3
Michigan.....	11	West Virginia.....	3
Missouri.....	11	Maine.....	2
Arkansas.....	11	Arizona.....	2
Ohio.....	11	Washington.....	2
Louisiana.....	10	California.....	1
Wisconsin.....	9	Colorado.....	1
Connecticut.....	9	Delaware.....	1
The Dakotas.....	8	Montana.....	1
Pennsylvania.....	8	New Mexico.....	1
New Jersey.....	8	Rhode Island.....	1

Excessive hourly precipitation.

State.	No. years noted.	State.	No. years noted.
Texas.....	15	Indian Territory.....	3
Florida.....	13	Virginia.....	3
Georgia.....	10	Arkansas.....	2
Nebraska.....	9	Indiana.....	2
North Carolina.....	7	Kentucky.....	2
Illinois.....	6	Missouri.....	2
Kansas.....	6	West Virginia.....	2
New York.....	6	Minnesota.....	2
Tennessee.....	6	New Hampshire.....	2
Louisiana.....	5	The Dakotas.....	1
South Carolina.....	5	District of Columbia	1
Iowa.....	4	Maine.....	1
Michigan.....	4	Massachusetts.....	1
Pennsylvania.....	4	New Jersey.....	1
Alabama.....	4	Vermont.....	1
Arizona.....	3	Wisconsin.....	1
Mississippi.....	3	Connecticut.....	1
Ohio.....	3		

The following tables give exceptionally heavy monthly, daily, and hourly precipitation reported for September during the last 22 years:

Monthly.

Station and state.	Am't.	Year.	Station and state.	Am't.	Year.
Brownsville, Tex.....	Inches 30.57	1886	Merritts Island, Fla.....	Inches 23.78	1878
Saint Marys, Ga.....	27.41	1885	Mayport, Fla.....	23.24	1885
Elsworth, N. C.....	26.50	1881	Brunswick, Ga.....	22.08	1885
Galveston, Tex.....	26.01	1885	Homeland, Fla.....	21.15	1890
Paterson, N. J.....	25.98	1882	Jacksonville, Fla.....	21.12	1878
Biscayne, Fla.....	25.10	1878	Spartanburgh, S. C.....	20.44	1888
Saint Augustine, Fla.....	23.90	1871	Wilmington, N. C.....	20.10	1877

Daily (24 hours).

Station and state.	Amount.	Date.	Station and state.	Amount.	Date.
	<i>Inches.</i>			<i>Inches.</i>	
Paterson, N. J.	17.90	21-22, 1882	Wytheville, Va.	7.02	12, 1878
Elsworth, N. C.	13.00	15-16, 1881	Mobile, Ala.	7.00	18, 1877
Genoa, Nebr.	10.60	1, 1887	Fort Hays, Kans.	7.00	12, 1871
Mayport, Fla.	9.52	21, 1885	Shreveport, La.	7.00	17, 1875
Luling, La.	9.32	20-21, 1891	Portsmouth, N. C.	7.00	12, 1884
Merritts Island, Fla.	9.09	9, 1878	Homeland, Fla.	6.85	1, 1890
Brownsville, Tex.	8.50	21, 1887	Milledgeville, Ga.	6.50	28, 1890
Greenwood, S. C.	8.35	10, 1888	South Canisteo, N. Y.	6.48	10, 1890
Nashua, Iowa.	8.22	25, 1880	Columbia, Tex.	6.47	10-11, 1890
Key West, Fla.	7.90	21-22, 1889	Hot Springs, Ark.	6.45	22-23, 1890
College Station, Tex.	7.84	4, 1889	Brazoria, Tex.	6.03	24, 1891
Jesup, Ga.	7.82	27, 1885	Minden, La.	5.72	22, 1890
Sedan, Kans.	7.52	10-11, 1889	Midland, Tex.	5.50	29-30, 1891
South Fork, Ky.	7.50	17-18, 1889	Charleston, S. C.	5.42	24-25, 1890
South Orange, N. J.	7.50	23, 1882	Wedgwood, N. Y.	5.34	10, 1890
Mt. Washington, N. H.	7.41	15, 1880	New Braunfels, Tex.	5.27	8, 1890
Abbeville, S. C.	7.40	10, 1888	Centerville, Mo.	5.20	8-9, 1890
Wilmington, N. C.	7.30	10, 1880	Brewer Mine, S. C.	5.20	13-14, 1890

One hour and less.

Station and state.	Amount.	Time.	Date.
	<i>Inches.</i>	<i>h. m.</i>	
Demos, Ohio.	2.00	0 05	5, 1890
Jacksonville, Fla.	0.62	0 05	6, 1891
Key West, Fla.	0.45	0 05	20, 1891
Jupiter, Fla.	0.40	0 05	8, 1891
Galveston, Tex.	0.38	0 05	16, 1891
New York, N. Y.	0.35	0 05	17, 1890
Savannah, Ga.	0.35	0 05	12, 1890
Do.	0.35	0 05	24, 1890
Norfolk, Va.	0.32	0 05	14, 1890
Jupiter, Fla.	0.30	0 05	5, 1890
Washington, D. C.	0.30	0 05	11, 1890
New York, N. Y.	0.45	0 08	21, 1882
Kirkwood, S. C.	1.50	0 10	14, 1890
Jacksonville, Fla.	1.18	0 10	6, 1891
Pine Apple, Ala.	1.10	0 10	5, 1890
Norfolk, Va.	0.45	0 10	6, 1891
Alpena, Mich.	1.05	0 11	10, 1884
Omaha, Nebr.	1.00	0 15	28, 1881
Howe, Tex.	3.00	0 20	10, 1889
Emilie, La.	1.24	0 20	3, 1891
Fort Riley, Kans.	1.07	0 20	15, 1870
Charleston, S. C.	2.00	0 30	13, 1877
Cedar Keys, Fla.	1.70	0 30	2, 1888
Rio Grande City, Tex.	1.03	0 35	26, 1879
Monroe, La.	4.12	0 45	22, 1890
Fort Davis, Tex.	2.42	0 45	9, 1880
Fort Meade, Fla.	3.50	1 00	6, 1891
Luling, La.	9.32	4 10	20-21, 1891

Table of excessive precipitation, September, 1891.

State and station.	Monthly rainfall to inches, or more.	Rainfall 2.50 inches, or more, in 24 hours.	Rainfall of 1 inch, or more, in one hour.
	<i>Amt.</i>	<i>Day.</i>	<i>Amt.</i>
	<i>Inches.</i>	<i>Inches.</i>	<i>Inches.</i>
<i>Alabama.</i>			
Daphne.	2.98	12-13	
Fort Deposit.	3.40	28	
Union Springs.	1.80	1 30	28
<i>Arkansas.</i>			
Texarkana.	3.05	28	
<i>Connecticut.</i>			
New Haven.	2.65	6-7	1 35
Wallingford.	2.57	6	
<i>District of Columbia.</i>			
Distributing Reservoir.	2.83	6	
Receiving Reservoir.	3.85	6	
<i>Florida.</i>			
Amelia.	2.59	10	
De Land (1).	3.45	9	
Eustis.	2.84	30	2 20
Fort Meade.	16.00	6	3 50
Gainesville.		6	1 00
Homeland.	17.10	5	2 25
Do.	2.70	6	
Jacksonville.	10.83	3 19	1 08
Do.	3.79	10-11	1 05
Jupiter.	11.77		1 05
Do.			1 10
Key West.	10.39		1 50
Merritts Island.	10.70		
Mico.	13.70	2 72	19
Orange City.		2 55	10
Pasadena.			2 18
Saint Francis Barracks.	10.68		2 00
Titusville.	11.75	4 00	1-2

Table of excessive precipitation—Continued.

State and station.	Monthly rainfall to inches, or more.	Rainfall 2.50 inches, or more, in 24 hours.	Rainfall of 1 inch, or more, in one hour.
	<i>Amt.</i>	<i>Day.</i>	<i>Amt.</i>
	<i>Inches.</i>	<i>Inches.</i>	<i>Inches.</i>
<i>Indiana.</i>			
Huntingburgh.	3.50	3	
<i>Kansas.</i>			
Downs.	3.30	7-8	
Ellis.	3.00	24	
Do.	3.00	26	
<i>Louisiana.</i>			
Cameron.			1 36
Edgard.	4.67	20	1 00
Emilie.	4.70	20	0 20
Lake Charles.			2 30
Luling.	11.17	9 32	4 10
North Louisiana Experiment Station.	3.25	11	
Shreveport.	4.01	27-28	
Sugar Experiment Station.	4.10	20-21	1 20
<i>Maryland.</i>			
Baltimore.	4.00	5-6	
Fort McHenry.	2.70	6	
<i>Massachusetts.</i>			
Blue Hill.	2.95	7	
<i>Minnesota.</i>			
Moorhead.			1 10
<i>Mississippi.</i>			
Bay Saint Louis.	3.20	20	1 00
Logtown.	2.60	20	
Rienzi.	3.23	10	19
<i>New Jersey.</i>			
Freehold.	3.00	5	
Imlaystown.	2.52	5	
Oceanic.	2.55	5-6	
<i>New York.</i>			
Minnewaska.			2 00
<i>Ohio.</i>			
Elyria.	2.74	5	1 30
Oberlin.	2.75	5	16
<i>Oklahoma Territory.</i>			
Buffalo.	3.00	26-27	
Oklahoma City.	4.52	8-9	2 64
<i>South Carolina.</i>			
Charleston.			2 30
Columbia.	4.09	4	1 15
Saint Georges.			1 30
<i>Tennessee.</i>			
Franklin.			1 00
<i>Texas.</i>			
Big Spring.	3.50	30	0 40
Brownsville.	2.90	25-26	3 30
Brazoria.	2.53	22-23	30
Do.	6.03	24	
Galveston.	2.75	24-25	
Midland.	5.50	29-30	
Odessa.	2.85	30	
Silver Falls.	2.82	30	
<i>Virginia.</i>			
Standardsville.	2.53	5	2 53
<i>Washington.</i>			
Lapush.	3.30	18	2 30
Neah Bay.	10.78	17	
Tatoosh Island.	11.06	17	

Received too late for publication in August, 1891.

<i>Arizona.</i>					
Chiricahua Mountains.	2.50	12	2 50	1 00	12
Do.			2 00	2 00	29
<i>North Carolina.</i>					
Washington.	11.93	2 71	30		

MAXIMUM RAINFALL IN ONE HOUR OR LESS.

The following table is a record of the heaviest rainfall during September, 1891, for periods of five and ten minutes and one hour, as reported by regular stations of the Weather Bureau furnished with self-registering gauges:

Station.	Maximum fall in—	5 min.	Date.	10 min.	Date.	1 hour.	Date.
	<i>Inch.</i>			<i>Inch.</i>		<i>Inch.</i>	
Atlanta, Ga.	0.02	11	0 03	11	0 12	11	
Bismarck, N. Dak.	0.03	23	0 06	23	0 20	27	
Boston, Mass.	0.03	7	0 06	7	0 17	7	
Buffalo, N. Y.	0.10	29	0 15	29	0 27	29	
Cincinnati, Ohio.	0.05	29	0 10	29	0 25	29	
Chicago, Ill.							
Cleveland, Ohio.	0.11	13	0 15	5	0 42	5	
Denver, Colo.	0.01	22	0 02	22	0 05	22	
Detroit, Mich.	0.08	29	0 12	29	0 22	29	
Dodge City, Kans.	0.15	20	0 20	12, 26	0 47	26	
Duluth, Minn.	0.20	14	0 30	14	0 45	28	
Eastport, Me.	0.05	7	0 07	7	0 34	7	
Galveston, Tex.	0.38	16	0 50	16	0 95	24	